CLAIMS

1/ A chip (5) for a chip-containing portable article, in particular and article of card format, the chip comprising firstly a silicon substrate layer (12) whose active face (13) has circuits integrated therein defining a central processor unit and memories, and secondly an additional layer (14) of silicon covering at least part of said active face (13), the chip being characterized in that it further comprises physical means (17, 20, 21) for providing physical protection against the action of electromagnetic radiation in the infrared range at a wavelength longer than 1 µm.

2/ A chip (5) according to claim 1, characterized in that the physical means (17, 20, 21) are means providing physical protection against the action of electromagnetic radiation in the infrared range.

3/ A chip (5) according to claim 2, characterized in that the physical means (17, 20, 21) are means providing physical protection against the action of electromagnetic radiation in the ultraviolet, visible, and infrared ranges.

4/ A chip (5) according to any one of claims 1, 2, or 3, characterized in that the additional silicon layer (14) is sealed to the active face (13) of the silicon substrate layer (12) by a sealing layer (15).

5/ A chip (5) according to any preceding claim, characterized in that the physical means for providing physical protection against the action of electromagnetic radiation are silicon dopants (17).

6/ A chip (5) according to claim 5, characterized in that the concentration of silicon dopants (17) lies in the

range 10^{17} to 10^{20} atoms per cm^3, and is preferably about 10^{19} atoms per cm^3.

7/ A chip (5) according to claim 5 or 6, characterized in that the silicon dopants (17) are phosphorus or boron.

8/ A chip (5) according to any one of claims 5, 6, or 7, characterized in that the silicon dopants (17) are present in the silicon substrate layer (12) in its portion remote from its active face (13).

9/ A chip (5) according to any one of claims 5 to 8, characterized in that the silicon dopants (17) are present in the additional silicon layer (14).

10/ A chip (5) according to any preceding claim, characterized in that the physical means for providing physical protection against the action of electromagnetic radiation are formed by surface irregularities (20).

11/ A chip (5) according to claim 10, characterized in that the surface irregularities (20) are formed in the rear face (6) of the silicon substrate layer (12) remote from its active face (13).

12/ A chip (5) according to claim 10 or 11, characterized in that the surface irregularities (20) are provided in the bottom face (19) of the additional layer (14).

13/ A chip (5) according to any one of claims 10, 11, or 12, characterized in that the surface irregularities (20) are provided in the top face (18) of the additional layer (14).

14/ A chip (5) according to any preceding claim, characterized in that the physical means for providing

physical protection against the action of electromagnetic radiation are formed by at least one layer of metal (21).

15/ A chip (5) according to claim 14, characterized in that the metal layer (21) has a thickness greater than 50 Å, and preferably of about 100 Å.

16/ A chip (5) according to claim 14 or 15, characterized in that the metal layer (21) is placed on the bottom face (19) of the additional layer (14).

17/ A chip (5) according to any one of claims 14, 15, or 16, characterized in that the metal layer (21) is placed on the top face (18) of the additional layer (14).

18/ A chip (5) according to any one of claims 14 to 17, characterized in that the metal layer (21) is placed on the rear face (6) of the silicon substrate layer (12).